FEDERAL SUPPLY CLASS
6145

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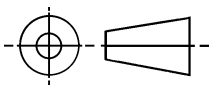

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PREPARED BY SAE SUBCOMMITTEE AE-8D

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AEROSPACE STANDARD

WIRE, ELECTRICAL, FLUOROPOLYMER-INSULATED, PTFE AND PTFE-COATED GLASS, NICKEL-COATED COPPER CONDUCTOR, 600-VOLT

AS22759/2
SHEET 1 OF 5

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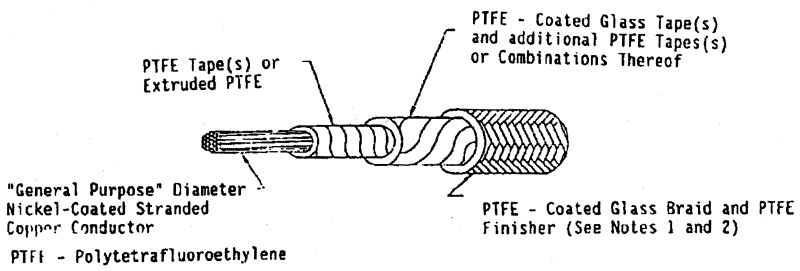

TABLE I. CONSTRUCTION DETAILS.

Part No. 1/	Wire size	Stranding (Number of strands x AWG gage of strands)	Diameter of stranded conductor (inches)		Finished wire		
			(min)	(max)	Resistance at 20°C (68°F) (ohms/1000 ft) (max)	Diameter (inches)	Weight (lbs/1000 ft) (max)
MIL-W-22759/2-22-*	22	19 x 34	.029	.033	16.0	.084 ±.004	7.5
MIL-W-22759/2-20-*	20	19 x 32	.037	.041	9.77	.094 ±.004	9.5
MIL-W-22759/2-18-*	18	19 x 30	.046	.051	6.10	.105 ±.005	13.0
MIL-W-22759/2-16-*	16	19 x 29	.052	.058	4.76	.120 ±.005	16.5
MIL-W-22759/2-14-*	14	19 x 27	.065	.073	3.00	.138 ±.005	23.0
MIL-W-22759/2-12-*	12	37 x 28	.084	.090	1.98	.157 ±.005	32.1
MIL-W-22759/2-10-*	10	37 x 26	.106	.114	1.24	.181 ±.007	47.0
MIL-W-22759/2-8-*	8	133 x 29	.158	.173	.694	.248 ±.007	82.0
MIL-W-22759/2-6-*	6	133 x 27	.198	.217	.436	.293 ±.010	122.
MIL-W-22759/2-4-*	4	133 x 25	.250	.274	.275	.355 ±.015	180.
MIL-W-22759/2-2-*	2	665 x 30	.320	.340	.177	.420 ±.015	275.
MIL-W-22759/2-1-*	1	817 x 30	.360	.380	.144	.470 ±.015	348.
MIL-W-22759/2-01-*	0	1045 x 30	.395	.425	.113	.515 ±.020	429.
MIL-W-22759/2-02-*	00	1330 x 30	.440	.475	.089	.575 ±.020	542.
MIL-W-22759/2-03-*	000	1665 x 30	.500	.540	.071	.640 ±.020	668.
MIL-W-22759/2-04-*	0000	2109 x 30	.565	.605	.056	.710 ±.020	835.

1/ PART NO: The asterisks in the part number column, tables I through III, shall be replaced by color code designators in accordance with MIL-STD-681. Examples: Size 20, white - M22759/2-20-9; white with orange stripe - M22759/2-20-93.

TABLE II. PERFORMANCE DETAILS.

Part No.	Bend testing			Test load (lbs) (±3%)	
	Mandrel diameter (inches) (±3%)				
	Life cycle (oven and bend tests) 1/	Cold bend test	Wrap test	Life cycle (oven and bend tests) 1/	Cold bend test
M22759/2-22-*	.375	.50	.250	.75	2.0
M22759/2-20-*	.375	.50	.250	.75	2.0
M22759/2-18-*	.50	.75	.375	1.0	2.0
M22759/2-16-*	.50	.75	.375	1.0	3.0
M22759/2-14-*	.625	1.00	.50	1.0	3.0
M22759/2-12-*	.75	2.00	.50	3.0	3.0
M22759/2-10-*	1.00	3.00	.75	3.0	5.0
M22759/2-8-*	2.00	3.00	1.00	3.0	5.0
M22759/2-6-*	3.00	4.00	1.25	6.0	10.0
M22759/2-4-*	4.00	6.00	1.50	6.0	10.0
M22759/2-2-*	6.50	6.00	2.00	6.0	15.0
M22759/2-1-*	10.00	10.00	2.50	6.0	15.0
M22759/2-01-*	10.00	10.00	3.00	10.0	20.0
M22759/2-02-*	10.00	18.00	4.00	10.0	25.0
M22759/2-03-*	10.00	18.00	5.00	10.0	30.0
M22759/2-04-*	10.00	18.00	6.00	10.0	30.0

1/ For bend tests after immersion.

REQUIREMENTS:

Temperature rating: 260°C (500°F) max conductor temperature.

Voltage rating: 600 volts (rms) at sea level.

Spark test of primary insulation: Not required.

Impulse dielectric test: 6.5 kilovolts (peak), 100 percent test.

Insulation resistance: 5,000 megohms for 1000 ft (min).

Wrap test: Mandrel test required - no cracking.
Dielectric test after mandrel wrap, 2500 volt (rms), 60Hz.

Blocking: 260 ±2°C (500 ±3.6°F).

Shrinkage: 0.125 inch max at 260 ±2°C (500 ±3,6°F).

Wicking: Size 22 through 12 - Procedure II; 2.0 percent (max) weight increase, 0.750 inch (max) dye travel. Size 10 through 0000 - No requirement.

Low temperature (cold bend): Bend temperature -65 ±2°C (-85 ±3.6°F).

Dielectric test, 2500 volts (rms), 60Hz.

Thermal shock: Oven temperature, 260 ±2°C (500 ±3.6°F). Maximum change in measurement - Sizes 22 through 12 - 0.060 inch. Sizes 10 through 8 - 0.100 inch. Sizes 6 through 0000 - 0.125 inch.

Flammability: Post-flame dielectric test not required.

Life cycle: Oven temperature 313 ±2°C (595.4 ±3.6°F). Dielectric test, 2500 volts (rms), 60Hz.

Dielectric test after immersion: 2500 volts (rms), 60Hz.

Humidity resistance: 5,000 megohms for 1000 ft, min insulation resistance after humidity exposure.

Surface resistance: Sizes 22 through 12 - 50 megohm-inches (min), initial and final readings. Sizes 10 through 0000 - No requirement.

Smoke: 313°C (595.4°F).

Acid resistance: Required. Dielectric test, 2500 volts (rms), 60Hz.

Color: In accordance with MIL-STD-104, Class 1; white preferred.

Color striping or banding durability: 50 cycles (100 strokes) (min), 125 grams weight.

Identification durability: 50 cycles (100 strokes) (min), 125 grams weight.

Wire length requirements: Schedule B.

NOTES (INSULATION):

1. The PTFE-coated-glass outer braid shall be tightly applied with no gaps apparent when examined visually without the aid of magnification.

2. The insulation, including the outer braid, shall be heat sintered so that it cannot be easily delaminated.

3. Caution should be taken during handling and disposal of all insulating and jacketing materials in accordance with ASTM C930 and FED-STD-313.

Supersession data: The wire of this specification sheet, by part number, replaces and supersedes the wire of MS90294(AS) (canceled) in accordance with table III.

TABLE III. SUPERSESSION BY PART NUMBER.

Size designation MIL-W-7139 Class 2	Part number MIL-W-22759/2
22	M22759/2-22-*
20	M22759/2-20-*
18	M22759/2-18-*
16	M22759/2-16-*
14	M22759/2-14-*
12	M22759/2-12-*
10	M22759/2-10-*
8	M22759/2-8-*
6	M22759/2-6-*
4	M22759/2-4-*
2	M22759/2-2-*
1	M22759/2-1-*
0	M22759/2-01-*
00	M22759/2-02-*
000	M22759/2-03-*
0000	M22759/2-04-*